Chapter 4 Review

Name:

State the leading coefficient and the degree.

1) $f(x)=10x^4+2x+1$

2) $f(x)= -3x^5+2x^3-43$

Examine the graph.

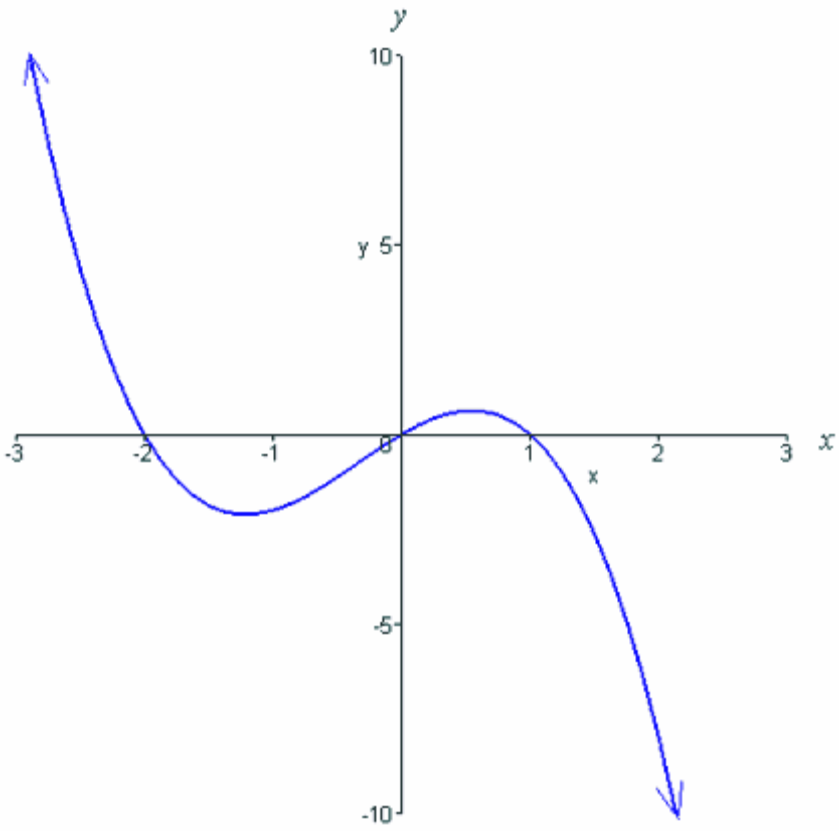
3) Identify when f(x) is increasing using interval notation

4) Identify when f(x) is decreasing using interval notation

5) State any absolute or local maximums

6) State any local or absolute minimums

7) What degree would you guess this function has?



8) If a function has a degree of n, how many turning points and zeros can it have (maximum)?

Identify whether each function is odd, even, or neither.

9) $f(x)=x^6+2x^2$

10) $f(x)=7x^5+3x^3-x$

11) $f(x)= -5x^3-18$

12) $f(x)= 1/(x^2-3)$

Graph the function and state whether it is continuous.

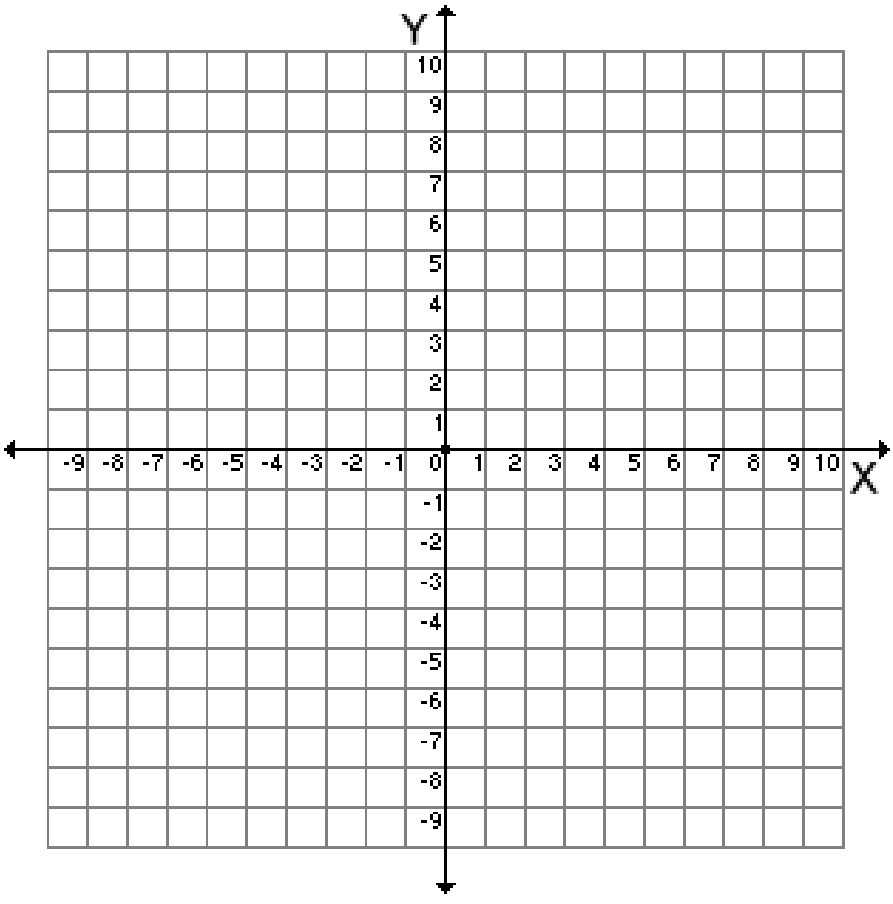
$$f(x)= \begin{cases} x^2-5 \text{ when } x<-2 \\ x+1 \text{ when } -2\leq x<2 \\ x^2-1 \text{ when } x\geq 2 \end{cases}$$

13) Find f(2)

14) Find f(0)

15) Find f(-1)

16) Find f(x)=0



Divide the following.

17) $(x^2+10x-5)/(2x)$

18) $(x^2-10x+5)/(x-1)$

19) Find the solutions to the following quadratic equation. Include imaginary solutions.

$3x^2-2x+10=0$

Find the asymptotes of the following functions.

20) $f(x)= \dfrac{3x^2-10}{x^2-1}$

21) $f(x)= \dfrac{3x+6}{x^2-16}$

Find the solution set for the following inequalities.

22) $x^3-12x^2+20x>0$

23) $\frac{x^2-5x+6}{x+3} < 0$

Solve the following equations.

24) $\sqrt{(x+2)} - 1 = x+1$

25) $\frac{x+5}{x-2} = 16$